

CLAIMS

What is claimed is:

1. A patient monitoring system, comprising:
 - 5 a plurality of remote monitoring subsystems, each remote monitoring subsystem including a remote monitoring unit and at least one sensor device coupled to the remote monitoring unit, each sensor device being associated with a respective patient;
 - 10 a plurality of user notification devices; and a central monitoring unit communicably coupled to the plurality of remote monitoring subsystems and the plurality of user notification devices, the central monitoring unit having a graphical user interface,
 - 15 wherein each sensor device is configured to detect at least one predetermined parameter of the respective patient associated therewith, and to transmit data representative of the detected parameter to the remote monitoring unit coupled thereto,
 - 20 wherein each remote monitoring unit is configured to receive sensor data, and to transmit patient information corresponding to the sensor data to the central monitoring unit, the patient information including representations of at least one type and level of assistance required by the respective patient, and
 - 25 wherein at least one of the graphical user interface and the plurality of user notification devices is operative to provide at least one alarm indication based on the type and level of assistance required by at least one of the respective patients.

2. The system of claim 1 wherein the central monitoring unit is configured to store the patient information in at least one database.
- 5 3. The system of claim 2 wherein the central monitoring unit is further configured to access selected patient information from the database, and to generate at least one report based on the selected information.
- 10 4. The system of claim 3 wherein the central monitoring unit is communicably coupleable to a wide area network, the central monitoring unit being further configured to transmit the at least one generated report over the wide area network.
- 15 5. The system of claim 4 wherein the central monitoring unit is configured for periodically transmitting the at least one report over the wide area network.
- 20 6. The system of claim 4 wherein the central monitoring unit is configured for automatically transmitting the at least one report over the wide area network.
- 25 7. The system of claim 1 wherein the at least one predetermined parameter detected by the sensor device is selected from the group consisting of at least one patient activity parameter and at least one patient physiological parameter.

8. The system of claim 7 wherein the at least one patient physiological parameter is selected from the group consisting of heartbeat data and respiration data.

5 9. The system of claim 7 wherein the at least one patient activity parameter is selected from the group consisting of patient weight data, random movement data, swaying movement data, low activity data, rocking movement data, cheek walk data, patient presence data, patient incontinence data, and
10 patient seizure data.

10. The system of claim 1 wherein the graphical user interface is configured to receive inputs from a system user for making multiple associations of patients, caregivers,
15 and user notification devices.

11. The system of claim 10 wherein the graphical user interface includes a first display area configured to display caregiver information, a second display area configured to display patient information, and a third display area configured to display user notification device information.
20

12. The system of claim 11 wherein the first, second, and
25 third display areas of the graphical user interface are configured to communicate the multiple associations of patients, caregivers, and user notification devices to the system user.

30 13. The system of claim 11 wherein the at least one alarm indication provided by the graphical user interface includes

at least one icon having a predetermined color and a predetermined shape, the icon being associated with a respective patient.

5 14. The system of claim 13 wherein the predetermined color of the icon is indicative of the level of assistance required by the respective patient.

10 15. The system of claim 13 wherein the predetermined shape of the icon is indicative of the level of assistance required by the respective patient.

15 16. The system of claim 13 wherein the predetermined color of the icon is indicative of the type of assistance required by the respective patient.

17. The system of claim 13 wherein the predetermined shape of the icon is indicative of the type of assistance required by the respective patient.

20

18. The system of claim 7 wherein the graphical user interface includes a first display area configured to display information corresponding to at least one of the patient activity parameter and the patient physiological parameter.

25 19. The system of claim 1 wherein the central monitoring unit is communicably coupled to the remote monitoring subsystems and the user notification devices via at least one wireless network.

20. The system of claim 1 wherein the central monitoring unit is communicably coupled to the remote monitoring subsystems and the user notification devices via at least one land-based network.

5

21. The system of claim 1 wherein each user notification device comprises an alphanumeric pager.

22. A method of operating a patient monitoring system,
10 comprising the steps of:

detecting at least one predetermined parameter of at least one respective patient by at least one sensor device, each sensor device being associated with a respective patient;

15 transmitting data representative of the detected parameter to at least one remote monitoring unit by the sensor device, the remote monitoring unit being coupled to the at least one sensor device;

20 receiving sensor data from the sensor device by the remote monitoring unit;

25 transmitting patient information corresponding to the sensor data to a central monitoring unit by the remote monitoring unit, the patient information including representations of at least one type and level of assistance required by the respective patient; and

30 providing at least one alarm indication based on the type and level of assistance required by at least one of the respective patients by at least one of a graphical user interface of the central monitoring unit and a plurality of user notification devices, the plurality of user

notification devices being coupled to the central monitoring unit.

23. The method of claim 22 further including the step of
5 storing the patient information in at least one database by
the central monitoring unit.

24. The method of claim 23 further including the step of
accessing selected patient information from the database and
10 generating at least one report based on the selected
information by the central monitoring unit.

25. The method of claim 24 further including the step of
transmitting the at least one generated report over a wide
15 area network by the central monitoring unit.

26. The method of claim 22 wherein the at least one
predetermined parameter detected by the sensor device is
selected from the group consisting of at least one patient
20 activity parameter and at least one patient physiological
parameter.

27. The method of claim 26 wherein the at least one patient
physiological parameter is selected from the group
25 consisting of heartbeat data and respiration data.

28. The method of claim 26 wherein the at least one patient
activity parameter is selected from the group consisting of
patient weight data, random movement data, swaying movement
30 data, low activity data, rocking movement data, cheek walk

data, patient presence data, patient incontinence data, and patient seizure data.

29. The method of claim 22 further including the step of
5 receiving inputs from a system user for making multiple associations of patients, caregivers, and user notification devices by the graphical user interface.

30. The method of claim 29 further including the steps of
10 displaying caregiver information by a first display area of the graphical user interface, displaying patient information by a second area of the graphical user interface, and displaying user notification device information by a third area of the graphical user interface.

15

31. The method of claim 30 further including the step of communicating the multiple associations of patients, caregivers, and user notification devices to the system user by the first, second, and third display areas of the
20 graphical user interface.

32. The method of claim 22 wherein the at least one alarm indication provided by the graphical user interface includes at least one icon having a predetermined color and a
25 predetermined shape, the icon being associated with a respective patient.

33. The method of claim 32 wherein the predetermined color of the icon is indicative of the level of assistance required by the respective patient.

34. The method of claim 32 wherein the predetermined shape of the icon is indicative of the level of assistance required by the respective patient.

5 35. The method of claim 32 wherein the predetermined color of the icon is indicative of the type of assistance required by the respective patient.

10 36. The method of claim 32 wherein the predetermined shape of the icon is indicative of the type of assistance required by the respective patient.